Galileo

The European Programme for Global Navigation Services

INSTANT

Infomobility services for safety-critical applications on land and sea based on integrated GNSS terminals to satisfy the needs of the 2004 Olympic cities.

Supporting emergency and security services on land and sea through a clustered mobile architecture based on state-of-the-art GNSS and communication technology.

What is INSTANT?

INSTANT is a pilot project under the Growth thematic programme of the 5th Research Framework Programme of the European Union. Together with the Galilei study, it forms part of on-going research work for the Galileo programme. It is managed by the EU Directorate General for Energy and Transport.

INSTANT addresses sustainable mobility and intermodality and focuses on the management of large-scale events and emergency situations. In particular, it is targeting the 2004 Olympic Games as a case-study, and proposes safety-of-life applications in two different environments (sea and land) and in different land surroundings (urban, semi-urban).

Applications will make extensive use of up-to-date GNSS receivers in close integration with other emerging technologies such as geo-information, mobile satellite communications, personal digital assistants and mobile mapping software.

Objectives

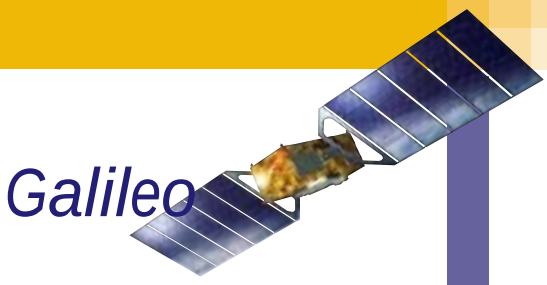
INSTANT will set up, validate and demonstrate three pilot projects based on the EGNOS System Test Bed, with a view to developing a pre-operational service. By doing so, it will:

- accelerate the uptake of Galileo by the transport sector by exploiting and demonstrating the improved performance provided by EGNOS in targeted applications;
- evaluate benefits and analyse economic viability from synergies with appropriate infrastructures and services, both terrestrial and space-based.

Applications

INSTANT is focusing on safety-of-life applications through three pilot projects in Rome and Athens:

- *Fire brigades*. This project will run in Rome testing land (urban) environment aspects such as route guidance, pedestrian resource management and vehicle resource management. It is a unique opportunity because fire brigades in Rome do not currently use satellite navigation technology;
- *Maritime.* This project will run in Athens testing maritime applications such as confined-waters navigation, regulated marine navigation, marine surveillance and personal outdoor recreation (marine leisure vessels, yachts). It will profit from the maritime opportunities and operational needs in Athens (in the Aegean Sea and the Wider Saronic Gulf) arising from the 2004 Olympic Games;
- *Safety-related applications.* This project will run in a semi-urban environment of Athens testing applications such as lone-worker protection, tracking of high-value and dangerous goods, and route guidance, emergency breakdown, theft and recovery of Light Commercial Vehicles. It will focus on safety-related land mobility operational needs in Athens and the wider Attica area arising from the 2004 Olympic Games.



Technical Information

The main innovative aspect of INSTANT is the development of a clustered mobile architecture that allows scalability and dynamic operations to achieve robustness, interconnection fault-tolerance and service continuity.
INSTANT will design, simulate and integrate the components that are necessary to build a mobile User Terminal. It will incorporate Galileo, GSM/GPRS/UMTS cellular communications, with particular emphasis on new 2.5/3rd generation equipment, and smart and capable (PDA/UT) interfaces, such as personal digital assistants, to reach a high level of usability in the target applications.
INSTANT will also deliver a service control centre equipped with:

- a Geographic Information System database server containing geo-referenced data for location-based services;
- a web/WAP server to enable mobile internet connections;
- an application server equipped with data exchange management capabilities to serve dynamic push-model management for control of emergencies and management of mobile equipment under critical alerting constraints.

Schedule

INSTANT started in July 2002 and will run for 20 months. The demonstration phase will be carried out in the last 4 months of the project, in early 2004, before the target event of the Olympic Games in Athens. Early results and prototypes will be shown thorough the development phases and assessed by the users and potential customers.

Consortium

The coordinator NEXT Ingegneria dei Sistemi S.p.A. (I) is an SME that provides leading-edge systems and services in the space, defence and telecom markets.
ALGOSYSTEMS S.A. (GR) activities are in Information Technology, telecom and networking system integration, automation and surveillance systems, multi-service networks and wide-area environmental management.
TERRAFIX Ltd. (UK) is a leading company in mobile data automatic vehicle location and Geographic Information System mapping systems worldwide, and provides systems with unique integration of navigation, communications and display technology.
LEAT Srl (I) provides systems in avionics and aeronautics and is associated with the Aeronautical & Defense Industries Association and a partner of ENAV, the Italian air traffic service provider.
Users are the maritime operator VERNICOS Yachts (GR), the security operator KARAKITSOS Security (GR) and the Italian National Fire Brigade (Rome).

INSTANT Coordination
Gianfranco Corini
gianfranco.corini@next.it
Dr. Luigi Mazzucchelli
luigi.mazzucchelii@next.it
http://www.next.it/INSTANT/
European Commission
Directorate General Energy and Transport
tren-galileo@cec.eu.int

How is Galileo different from other systems?

√ Galileo is specifically designed for civil and commercial purposes

√ increased accuracy, service guarantees and certification

√ traceability of past performance and operation transparency

√ increased availability of signals in demanding environments

Galileo: The European Satellite Navigation Programme is a joint initiative of the European Commission and the European Space Agency. Galileo will offer positioning and timing services worldwide.

For additional information, please contact the Galileo Joint Undertaking: JU@galileo-pgm.org or visit the websites http://www.europa.eu.int/comm/dgs/energy_transport/galileo/ http://www.esa.int/navigation/galileo/

October 2002